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ABSTRACT

The noncompliant behavior of a severely multihandicapped 6-year-old boy was modified through an antecedent manipulation. Responding to teacher requests within 5 seconds was measured under three conditions: decreased commands, increased commands, and unconditional commands with contingent consequation. A multielement design employed across conditions demonstrated that the use of increased commands was the most effective condition for controlling behavior. Commands issued at a frequent and consistent pace reduced inappropriate responding to zero, suggesting the potential of this antecedent as an alternative to purely contingency-based systems for decreasing noncompliance. (Twenty-six references are listed and a figure showing percentage of noncompliant responses to staff requests is appended.) (Author/CL)

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Decreasing Noncompliance in a Severely Multihandicapped Child

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Abstract

The noncompliant behavior of a severely multihandicapped 6 year old boy was modified through an antecedent manipulation. Responding to teacher requests within 5 seconds was measured under three conditions: decreased commands, increased commands, and unconditional commands with contingent consequation. A multielement design employed across conditions demonstrated that increased commands was the most effective in controlling behavior. Commands issued at a frequent and consistent pace reduced inappropriate responding to zero, suggesting the potential of this antecedent as an alternative to purely contingency-based systems for decreasing noncompliance.

Decreasing Noncompliance in a Severely Multihandicapped Child

Noncompliance is frequently identified as a misbehavior that presents educators and trainers with serious management control problems. Wehman and Mc Laughlin (1979) reported in a survey of teachers of 145 severely and profoundly handicapped students that noncompliance was designated as the most prevalent behavior problem in both public and residential school students. Deducibly, numerous research studies have addressed methods and procedures to establish or enhance appropriate responding in noncompliant individuals.

Some researchers have focused upon positive reinforcement procedures for controlling behavior. A study by Homme, de Baca, Devine, Steinhorst, and Rickert (1963) evidenced increases in compliance in three nursery school children by rewarding low probability behaviors with high probability behaviors (Premack Principle). Baer, Peterson, and Sherman (1967) established imitative responses in three profoundly retarded subjects by introducing and subsequently fading edible reinforcement. The examination of instructional control in a normal kindergarten classroom by Schutte and Hopkins (1970) supported the use of adult social attention to increase compliance. Similarly, Waxler and Yarrow (1970) demonstrated a functional relationship between the compliance of a group of normal preschoolers to imitate motor movements and contingent social reinforcement. Zimmerman, Zimmerman, and Russell (1969) found token reinforcement to influence higher rates of instruction-following behavior than praise alone in a class of mildly to severely retarded adolescents. Token reinforcement was successfully applied to develop instructional control over three extremely noncompliant special

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education preschoolers by Baer, Rowbury, and Baer (1973), while Fjellstedt and Sulzar-Azaŕoff (1973) reported reduction in the latency between the delivery of an instruction and a behaviorally handicapped youngster's compliance under the same system of reinforcement. Food and social reinforcement, physical guidance, and fading procedures were used to develop verbal stimulus control in two uncooperative, severely retarded subjects in a study by Whitman, Zakaras, and Chardos (1971). Reinforcement involving edibles, social attention, tokens, and preferred activities, among others, have served as positive approaches to effect increases in compliance in the absence of aversive controls on behavior.

Yet proportionately more researchers have incorporated negative deterents with positive reinforcement or relied solely upon the former as a means of managing behavior. Differential social attention entails the contingent and frequent application of adult's attention following desired child behaviors and the removal of attention following undesired child behaviors (Herbert, Pinkston, Hayden, Sajwaj, Pinkston, Cordua, & Jackson, 1973). While the negative attribute of extinction may, in theory, be debated, emotive behavioral responses to this technique seem to suggest that it is perceived by some subjects as punitive in application (Herbert, et al., 1973; Sajwaj, Twardosz, & Burke, 1972). Only limited success has been reported when differential attention has been employed to reduce noncompliance in handicapped populations. Wahler (1969) found that differential parental attention was effective in decreasing the oppositional behavior of two young subjects with psychological problems; however, behavioral changes in the homes were not transferred to the school settings until similar contingency operations were performed by the

teachers. Contrary to this finding, Herbert, et al. (1973) presented data to demonstrate the ineffectiveness of differential attention in modifying the deviant behaviors of their population of mildly to severely handicapped subjects. Not only did four subjects increase the amount and kind of their deviant behaviors, they decreased appropriate behaviors and developed aversive side-effects (e.g., enuresis). A later study by Budd, Green, and Baer (1976) disclosed the failure of differential social attention to increase the appropriate behaviors of a developmentally delayed 3 year old. Complete remediation of all targeted behaviors was achieved only after timeout for noncompliance was instituted.

Timeout, a prevalent punishment procedure for decreasing inappropriate behavior, refers to the contingent, relatively brief removal of an organism for a fixed time interval from contact with ongoing environmental contingencies (Plummer, Baer, & Le Blanc, 1977). Studies by Scarboro and Forehand (1975) and Zeilberger, Sampen, and Sloane (1968), utilizing timeout, have indicated immediate suppression of noncompliant behavior in populations of oppositional, nonclinic youths. Other studies focused upon the maximally effective duration of timeout in reducing deviant behaviors (among them disobedience). Burchard and Barrera (1972) noted that the higher magnitude of a 30 minute timeout resulted in greater deceleration of behavior than a 5 minute timeout for mildly retarded adolescents. Research by White, Nielsen, and Johnson (1972) revealed that 15 and 30 minute timeouts produced equitable decreases in behavior for moderately to severely retarded institutionalized subjects. Two more recent studies challenged the suppressive value of timeout, suggesting paced instructions or response cost as alternatives when timeout is not effective in producing response decrements in mentally handi-

capped individuals (Gresham, 1979; Plummer et al., 1977).

Another corrective procedure requires the individual to practice the appropriate manner of behaving as a consequence of aberrant responding. Azrin and Powers (1975) eliminated speaking out or leaving seats without permission by employing positive practice procedures with emotionally disturbed youngsters, while Foxx (1977) obtained compliance with requests for eye contact in autistic and mentally retarded subjects when edibles, praise, and positive practice in the form of functional head movement were used. Consideration may be given to social punishment in lieu of positive practice or timeout based on research by Doleys, Wells, Hobbs, Roberts, and Cartelli (1976). These investigators found lower levels of noncompliance in mentally retarded individuals under contingencies involving a loud scolding reprimand followed by a 40 second glare.

More aversive forms of behavior management included the use of electric shock to elicit compliance with the command, "Come here," in autistic children (Lovaas, Schaeffer, & Simmons, 1965) and repetitious tapping and neck pressure grip to increase responding to vocational tasks in severely retarded, noncompliant adults (Mithaug, 1979).

Research relating to the issue of noncompliance revealed extensive emphasis upon the manipulation of consequential events rather than antecedent events. While consequences serve to accelerate or decelerate behavior, antecedents facilitate and elicit desired behavior. Plummer, et al., (1977) stated a case in which an antecendent event, paced instructions (i.e., delivered instructions to the child at a set pace regardless of the child's behavior), increased appropriate responses to teacher instructions in a 5 year old autistic child, while the consequence event of timeout increased inappropriate responses.

This finding demonstrated the potential of antecedents in determining behavior. The purpose of the present study was to extend the research on the manipulation of antecedent events and suggest alternatives to purely contingency-based management systems for modifying noncompliance.

Pilot Study

Subject Description

One of six children enrolled in a special education program for severely multihandicapped children at a private setting served as the project subject. At the onset of the study, the subject was of chronological age 6.1 years. School records cited severe emotional disturbance and brain damage as the primary handicaps. The subject exhibited concomitant deficits in language and motor functioning to the extent that speech was generally intelligible but inarticulate and coordination was adequate for gross motor movements but clumsy.

Setting and Materials

The study was conducted in the subject's classroom and adjacent hallway 5 days a week for 30 minutes each day. The room contained a compartmented shelving unit for personal belongings, a low rectangular lunch table, six student chairs, and a trash can. The sink was located nearby in the hallway. Other equipment pertinent to the program included a happy face pin, cue tape, tape recorder, counter, and picture lunch book (described in greater detail in the Description of Interventions section).

Description of Interventions

The focus of this study examined the comparative manipulation of antecedent and consequent events on behavior in contrast to previously attempted management based solely upon consequent events. Three conditions or inter-

ventions were alternated throughout the program to determine differential responding over a relatively short period of time. While the greater emphasis was placed upon antecedent changes, the staff reserved the right to use contingent observation (a form of timeout which allows the child to continue observing appropriate behaviors) as a backup for inappropriate responding, since they were opposed to ignoring the behavior due to the negative reinforcement this allowed.

Condition 1: Increase commands

For this condition, a 1 minute paced tape of 30 cues was used to prompt the teacher to give a compliance request to the subject. Requests required verbal or motor responses. Specific requests were left to the discretion of the teacher to reflect natural expectations.

Condition 2: Decrease commands

For this condition, a picture lunch book was used to cue the subject to follow five routinely performed tasks during lunch. Color photographs of the subject washing hands, obtaining lunchbox, positioning chair at the lunch table, discarding trash, and returning lunchbox to the shelves were arranged into a flip book with attached chain for hanging about the neck. The pictures were consecutively ordered to illustrate the exact progression of events and maximize understanding. Each lunch period scheduled for this condition was immediately preceeded by the teacher directing the subject to put on the lunch book. The student was expected to comply with the pictures in the same manner as he would have complied with teacher requests. If the student failed to self-manage the sequence, non-specific prompts such as "What comes next?" were provided after a 5 second delay; otherwise, requests for modifying behavior were only given when essential to maintain classroom order.

Condition 3: Unconditional commands with contingent consequation

For this condition, commands were issued at normally occurring rates. The teacher was neither inhibited nor encouraged to express requests. Rather, at the onset of the lunch period, a $1\frac{1}{2}$ inch circular happy face pin was attached to the subject's shirt and an explanation provided, "You're lucky! You get to wear the happy face pin. As long as you behave nicely, you can wear the pin. If you behave badly, I will take the pin off". The pin was removed immediately upon noncompliance and returned after 3 minutes and demonstrated compliance.

Procedure

To maintain consistency and minimize the effects of differential student behavior toward staff members, the teacher and student teacher assumed responsibility for program implementation. These staff members were responsible for delivering requests according to the scheduled condition and collecting and recording data in the form of a frequency count of compliance and noncompliance. The researcher acted as consultant to program synchronization and observer for reliability checks. Reliability was assessed once for each of the three conditions and calculated by dividing the total number of agreements by the total number of agreements plus disagreements multiplied by 100%. A disagreement was scored if one recorder noted a behavior and the other did not. The average of three reliability checks conducted throughout the study was 94%.

Prior to enacting the intervention conditions, one week was allotted for preliminary orientation to the lunch book. During this time, the classroom teacher trained the subject in self-regulation. Each day she cued him to

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recognize when lunch occurred in the daily routine, encouraged him to initiate the sequence of appropriate responses by directing him toward the lunch book, assisted him in selecting the materials matching the picture, instructed him to complete one action before flipping the picture, and reminded him to terminate the activity by removing his lunch book. For the 3 succeeding weeks, each of the three conditions was randomly scheduled for 5 sessions throughout the program.

Design

A multielement design was employed to evaluate program effectiveness. Baseline data was collected to determine a stable rate of behavior prior to implementation of the interventions. Noncompliance was measured under alternating conditions of the independent variables: increase commands (or Condition 1), decrease commands (or Condition 2), and unconditional commands (or Condition 3). The three conditions were presented in random order for the ½ hour lunch period, allowing for control of any confounding sequence effects and comparison of the differential effects of the interventions on the subject's noncompliance over 3 weeks time.

Results

Figure 1 depicts the changes in percentage levels of noncompliance during lunch period under baseline and intervention conditions. During the 2 day baseline phase, the noncompliance rate of the subject varied only 2 percentage points and averaged 40%. Application of the three conditions clearly

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Insert Figure 1 about here

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produced differential rates of responding to teacher requests over a short

period of time. After instituting increased commands paced at 1 minute intervals (or Condition 1), the subject's noncompliance fell from 36 to 0% within three presentations of the procedure and remained at this level. When decreased commands using a self-cuing picture lunch book (or Condition 2) was implemented, noncompliance ranged from 60 to 37% with a mean of 47%. Lastly, noncompliance averaged 20% over the five presentations of unconditionally issued rates of command in combination with a happy face pin (or Condition 3).

Discussion

The findings of this study provide support for the consideration and manipulation of antecedent events as an alternative and/or complement to consequence events. In one of three conditions investigated, noncompliance came solely under the control of antecedents. Inappropriate responding was reduced to zero when requests were increased to one per minute; consequently, teachers did not need to resort to the negative contingency which they had reserved to consequate noncompliance.

Plummer et al., (1977) reported similar findings that paced instruction (e.g., delivered instructions to the child at a set pace regardless of the child's behavior) reduced inappropriate behavior to near zero. While the procedural techniques differed between this and the present study (e.g., requests were only issued when compliance was maintained in this study), both necessitated increased teacher attention and communication with the targeted child. Observation revealed that many of the requests were to encourage the subject to socially interact with his teacher as well as his peers. Requests, such as, "Tell me what you have for lunch" and "Ask Ann what she has to drink" set up potentialities for positive socialization. Perhaps such increased

attention was sufficiently reinforcing to maintain the child's compliance. If this were the case, the backup of contingent observation might have accrued additional power as a punisher. Support for the heightened reinforcing value of this atmosphere was provided by occasional spontaneous interchange of pleasantries beyond the initially requested verbalization.

Paced instruction requires more presentations of adult requests. The subject of this study received greater opportunities for learning the pattern of request and response within a reasonable period of time (e.g., 5 seconds) under Condition 1, increased commands. Such frequency of learning trials may be warranted to facilitate the subject's fluency of participation in the request/response interaction. In addition, the increased commands provided a structuring of behavior by directing appropriate postural, eating, and social behaviors. Results demonstrated the inverse relationship between compliance and decreased structure, indicating that this boy was functionally unresponsive to the self-cuing measure. Self-direction, being greatly advanced in the hierarchy of organizational skills, may have presented an excessive expectation. Then again, teachers cognizantly strove to adhere to a reduction of commands during Condition 2, at times avoiding issuing commands that might elicit a noncompliant response and thus, inadvertently creating negative reinforcement for noncompliance.

Manipulation of antecedents remains a neglected variable for managing behavior. Addressing the issue of noncompliance, Haring, Liberty, and White (1980) suggested six possible remediations. Of these, only one referred to an antecedent change, while the remaining detailed consequence changes. Implications for future

research clearly suggest investigation of the effects of antecedent manipulations upon the noncompliant behavior of other students, since results indicated the plausibility of modifying inappropriate behavior in short periods of time.

The current study may be extended to fade the pace of requests over time in order to approximate more naturally occurring rates. Further, the system of data collection may be modified to relect decreases in noncompliant behavior as well as increases in social interaction. The staff members implementing this project subjectively indicated increments in socialization. Documentation of this observation would serve to substantiate the salutary use of increasing and pacing instruction.

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References

Azrin, N., & Powers, M. Eliminating classroom disturbance of emotionally disturbed children by positive practice procedures. Behavior Therapy, 1975, 6, 525-534.

Baer, A., Rowbury, T., & Baer, D. The development of instructional control over classroom activities of deviant preschool children. Journal of Applied Behavior Analysis, 1973, 6, 289-298.

Baer, D., Peterson, R., & Sherman, J. The development of imitation by reinforcing behavioral similarity to a model. Journal of the Experimental Analysis of Behavior, 1967, 10, 405-416.

Budd, K., Green, D., & Baer, D. An analysis of multiple misplaced parental social contingencies. Journal of Applied Behavior Analysis, 1976, 9, 459-470.

Burchard, J., & Barrera, F. An analysis of timeout and response cost in a programmed environment. Journal of Applied Behavior Analysis, 1972, 5, 271-282.

Doleys, D., Wells, K., Hobbs, S., Roberts, M., & Cartelli, L. The effects of social punishment on noncompliance: A comparison with timeout and positive practice. Journal of Applied Behavior Analysis, 1976, 9, 471-482.

Fjellstedt, N., & Sulzar-Azaroff, B. Reducing the latency of a child's responding to instructions by means of a token system. Journal of Applied Behavior Analysis, 1973, 6, 125-130.

Foxx, R. Attention training: The use of overcorrection avoidance to increase the eye contact of autistic and retarded children. Journal of Applied Behavior Analysis, 1977, 10, 489-499.

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Gresham, F. Comparison of response cost and timeout in a special education setting. The Journal of Special Education, 1979, 13, 199-208.

Haring, N., Liberty, K., & White, O. Rules for data-based strategy decisions in instructional programs. In W. Sailor, B. Wilcox, & L. Brown (Eds.), Methods of instruction for severely handicapped students. Baltimore: Paul H. Brookes Publishers, 1980.

Herbert, E., Pinkston, E., Hayden, M., Sajwaj, T., Pinkston, S., Cordua, G., & Jackson, C. Adverse effects of differential parental attention. Journal of Applied Behavior Analysis, 1973, 6, 15-30.

Homme, L., deBaca, P., Devine, J., Steinhorst, R., & Rickert, E. Use of the Premack Principle in controlling the behavior of nursery school children. Journal of the Experimental Analysis of Behavior, 1963, 6, 544.

Lovaas, O., Schaeffer, B., & Simmons, J. Building social behavior in autistic children by use of electric shock. Journal of Experimental Research in Personality, 1965, 1, 99-109.

Mithaug, D. A comparison of procedures to increase responding in three severely retarded, noncompliant young adults. AAESPH Review, 1979, 4, 66-80.

Plummer, S., Baer, D., & Le Blanc, J. Functional consideration in the use of procedural timeout and an effective alternative. Journal of Applied Behavior Analysis, 1977, 10, 689-705.

Sajwaj, T., Twardosz, S., & Burke, M. Side effects of extinction procedures in a remedial preschool. Journal of Applied Behavior Analysis, 1972, 5, 163-175.

Scarboro, M., & Forehand, R. Effects of two types of response-contingent time-out on compliance and oppositional behavior of children, Journal of Experimental Child Psychology, 1975, 19, 252-264.

Schutte, R., & Hopkins, B. The effects of teacher attention on following instructions in a kindergarten class. Journal of Applied Behavior Analysis. 1970, 3, 117-122.

Sulzar-Azaroff, B., & Mayer, G. Applying Behavior-Analysis Procedures with Children and Youth. New York: Holt, Rinehart, and Winston, 1977.

Wahler, R. Setting generality: Some specific and general effects of child behavior therapy. Journal of Applied Behavior Analysis, 1969, 2, 239-246.

Waxler, C., & Yarrow, M. Factors influencing imitative learning in preschool children. Journal of Experimental Child Psychology, 1970, 9, 115-130.

Wehman, P., & Mc Laughlin, P. Teachers' perceptions of behavior problems with severely and profoundly handicapped students. Mental Retardation, 1979, 1, 20-21.

White, G., Nielsen, G., & Johnson, S. Timeout duration and the suppression of deviant behavior in children. Journal of Applied Behavior Analysis, 1972, 5, 111-120.

Whitman, T., Zakaras, M., & Chardos, S. Effects of reinforcement and guidance procedures on instruction-following behavior of severely retarded children. Journal of Applied Behavior Analysis, 1971, 4, 283-290.

Zeilberger, J., Sampen, S., & Sloane, H. Modification of a child's problem behaviors in the home with the mother as therapist. Journal of Applied Behavior Analysis, 1968, 1, 47-53.

Zimmerman, E., Zimmerman, J., & Russell, C. Differential effects of token reinforcement on instruction-following behavior in retarded students instructed as a group. Journal of Applied Behavior Analysis, 1969, 2, 101-112.

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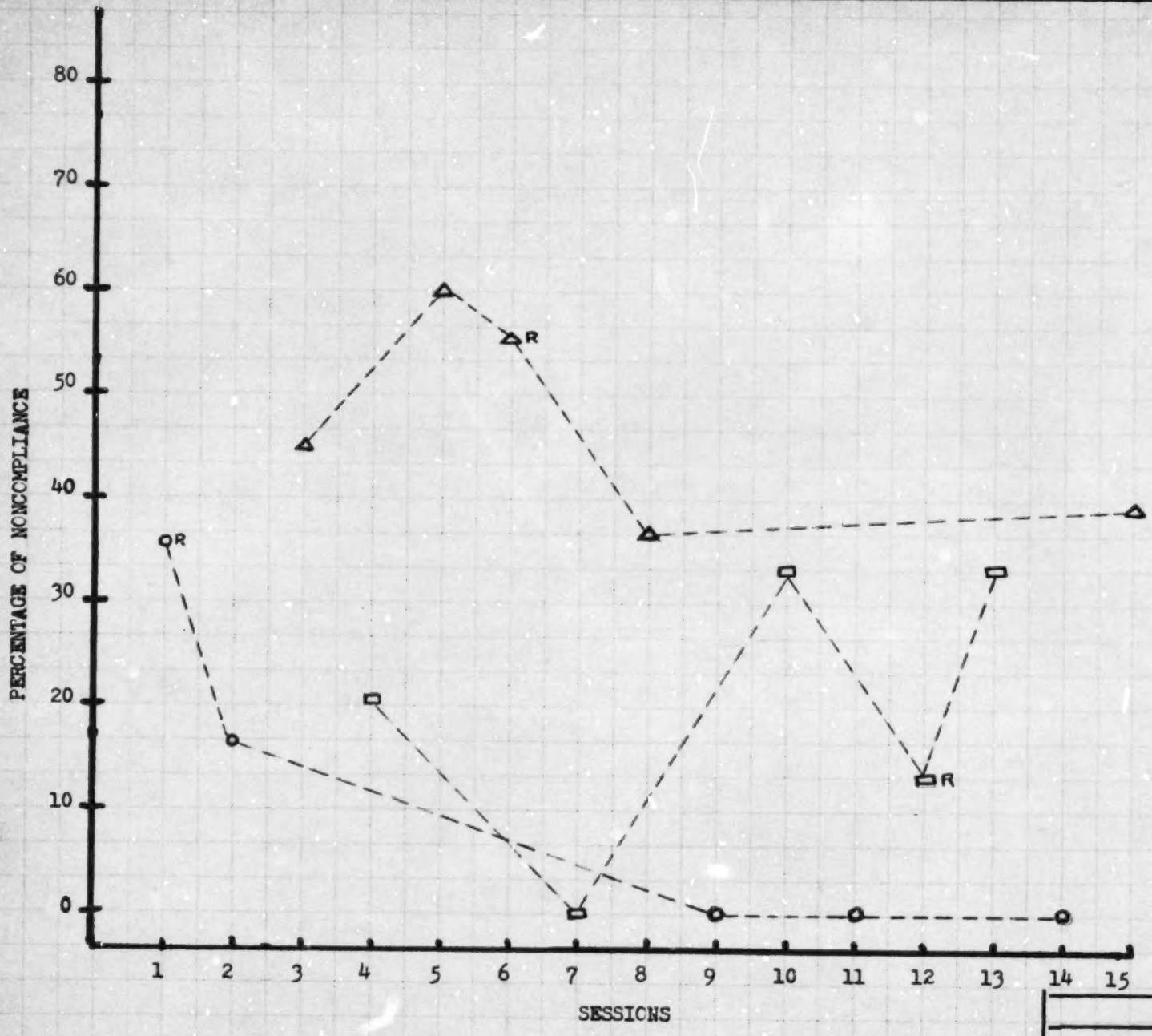
Figure Caption

Figure 1. Percentage of noncompliant responses to staff requests.



KEY

R reliability

--O--increased commands

--△--decreased commands

--□--unconditional commands